

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Part 90 of the)	WT Docket No. 11-69
Commission's Rules to Permit)	
Terrestrial Trunked Radio (TETRA))	
Technology)	
)	
Request by the TETRA Association for)	ET Docket No. 09-234
Waiver of Sections 90.209, 90.210 and)	
2.1043 of the Commission's Rules)	

To: The Commission

COMMENTS OF EF JOHNSON TECHNOLOGIES, INC.

EF Johnson Technologies, Inc. hereby submits comments to the Federal Communications Commission (Commission) in response to several of the questions posed in the *Notice of Proposed Rulemaking* in the above captioned proceeding.

EF Johnson Technologies, a privately held company, a holding of Francisco Partners, and is a provider of Private Land Mobile systems and equipment, with offices in Irving, TX, Lincoln, NE, and Waseca, MN. EF Johnson Technologies has been a provider of radio equipment for 87 years, with a history of private radio equipment manufacturing for over forty years. EF Johnson Technologies focuses on innovating, developing, and marketing secure communications solutions to organizations whose mission is to protect and save lives. The Company's products are marketed under the EFJohnson and Transcript International names, and include Project 25 compliant two-

way radios and communication system infrastructure, as well as voice encryption products.

EF Johnson Technologies agrees with the Commission that the use of TETRA technology on a permanent basis should be considered in a rulemaking proceeding. We appreciate the opportunity to comment on issues relating to that rulemaking.

In their request for waiver of FCC rules, the TETRA Association provided an analysis of interference protection characteristics of TETRA technology as it relates to other currently used technologies¹. EF Johnson Technologies is not convinced that this analysis adequately details all of the concerns relating to the deployment of TETRA. Of primary concern is the potential for “near-far” interference issues that can exist when various technologies are intermixed within a frequency band. In particular, TETRA deployments are often characterized by a high density of closely spaced sites, similar to cellular like systems. Experience has shown that these types of deployments can be problematic when intermixed with the more noise limited systems typical of Public Safety deployments. EF Johnson Technologies believes that a greater degree of study and analysis is warranted to ensure that the potential for this type of interference is mitigated.

A further area of concern is the issue of interoperability within the Public Safety Pool frequencies. Much effort has gone on to enhance interoperability between various

¹ TETRA Association, Request for Waiver of Sections 90.209, 90.210, and 2.1043, Attachment A (filed Nov.20, 2009).

Public Safety jurisdictions, many of which procure equipment from multiple suppliers. Much of this effort is in the form of standards development, namely Project 25. The standards provide for a common over-the-air interface for interoperability on a radio-by-radio basis. The standards provide for common technology in the area of conventional operation, trunked operation, encryption, vocoder, etc. In addition, network interoperability is enabled through an Intra Subsystem Interface (ISSI). EF Johnson Technologies has concerns that a disparate technology such as TETRA would pose interoperability difficulties. The first obvious challenge is the lack of a common air interface, prohibiting over-the-air interoperability except in instances where subscriber radios contain both Project 25 and TETRA modes of operation. In addition, because of lack of common technology in the area of vocoders, encryption, and system protocols, an inter system interface may prove to be problematic. It is anticipated that with lack of common vocoder and encryption technology, a network gateway would of necessity convert voice calls to the only common format, that being analog voice. This will result in calls with degraded voice quality, as well as security vulnerability, due to the fact that end-to-end encryption is not preserved. It is anticipated that the addition of a TETRA technology into the Public Safety Pool would create challenges, and pose additional impediments to achieving the sought after interoperability.

EF Johnson Technologies would like to express its appreciation to the Commission for the opportunity to provide comment on these matters.

Respectfully submitted,

EF Johnson Technologies, Inc.

By: /S/ John S. Oblak

John S. Oblak
VP, Standards and Regulatory Affairs

EF Johnson Technologies
123 North State St.
Waseca, MN 56093

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